

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A multicarrier communication system, comprising:  
a processor having an Orthogonal Frequency-Division Multiplexing (OFDM) transceiver operative to use channel knowledge to dynamically select and puncture one or more subcarriers for a packet prior to transmission, and channel delay spread knowledge that is used to dynamically adjust a guard interval of a the packet prior to transmission.
2. (Currently Amended) The system of claim 1 wherein the OFDM transceiver is operative to adjust the guard interval is adjusted by appending a cyclic prefix to the packet that dynamically changes with updated channel delay spread knowledge.
3. (Currently Amended) The system of claim 1 wherein the OFDM transceiver is operative to adjust the guard interval is adjusted by appending a cyclic suffix to the packet that dynamically changes with updated channel delay spread knowledge.
4. (Currently Amended) The system of claim 1 wherein the OFDM transceiver is operative to adjust the guard interval is adjusted by appending both a cyclic prefix and a cyclic suffix to the packet that dynamically changes with updated channel delay spread

knowledge.

5. (Original) The system of claim 1 wherein the multicarrier communication system is an Orthogonal Frequency-Division Multiplexing (OFDM) communication system.

6. (Currently Amended) The system of claim 1 wherein the OFDM transceiver is operative to a target node determines the guard interval from a source transmission to set the guard interval.

7. (Currently Amended) The system of claim 1 wherein the OFDM transceiver is operative to a source node determines the guard interval from a target transmission to set the guard interval.

8. (Currently Amended) The system of claim 1 wherein the OFDM transceiver is operative to receive measured multipath reflections to provide channel delay spread knowledge to set the guard interval and remove Inter-Symbol Interference (ISI).

9. (Currently Amended) The system of claim 1 wherein the multicarrier communication system is a Time Division Duplex (TDD) OFDM communication system that includes a source node with the OFDM transceiver, the source node to inform other nodes in the system of the guard interval that is to be commonly used.

10. (Currently Amended) The system of claim 9 + wherein two nodes in the system

set their respective wherein the OFDM transceiver is operative to set the guard intervals following a transmission from a ~~the~~ source node to a target node and back again to the source node.

11. (Currently Amended) The system of claim 9 wherein the OFDM transceiver is operative to receive guard interval information from one or more associated nodes 4 further including nodes associated with the source node to transmit information to inform the source node of their respective guard interval, and once received, the source node determines the appropriate guard interval and informs the nodes of the guard interval to be used.

12. (Currently Amended) The system of claim 9 wherein the OFDM transceiver is operative to receive a guard interval from a target node 4 wherein a target node informs a source node of the guard interval that is to be used and the source node then uses that guard interval for subsequent transmissions to the target node.

13. (Currently Amended) The system of claim 12, wherein a target node and a ~~the~~ source node are is programmed to revert back to a previous baseline guard interval that was negotiated with all nodes associated with the source node.

14. (Currently Amended) A communication system having Orthogonal Frequency-Division Multiplexing (OFDM) devices, a first OFDM device comprising:  
an analog transceiver having a receiver chain to demodulate a packet;

a processor coupled to the receiver chain, the processor having an OFDM transceiver operative to receive the packet and use channel knowledge to dynamically select and puncture one or more subcarriers for a packet prior to transmission, to receive the packet and use channel delay spread knowledge to adjust a guard interval of a the packet prior to transmission; and

a Static Random Access Memory (SRAM) memory coupled to the processor.

15. (Original) The communications system of claim 14 wherein the system dynamically monitors multipath reflections to provide channel delay spread knowledge to change the guard interval for further transmissions and remove Inter Symbol Interference (ISI) OFDM transceiver is operative to periodically receive channel delay spread knowledge updates and dynamically change the guard interval for further transmissions.

16. (Original) The communications system of claim 14 further including:

other OFDM devices to transmit guard interval information to the first OFDM device, the first OFDM device to use the OFDM transceiver to determine a guard interval, and transmit the guard interval using the analog transceiver to the other OFDM devices where a guard interval is determined and transmitted to the other OFDM devices to provide the guard interval to be used.

17. (Currently Amended) A method comprising:

measuring channel delays from multipath reflections in an Orthogonal Frequency-Division Multiplexing (OFDM) system to form channel knowledge and recurrent channel delay spread knowledge;

using the channel knowledge to dynamically select and puncture one or more subcarriers for a packet prior to transmission; and

adjusting a guard interval of the packet prior to transmission using the recurrent channel delay spread knowledge to reduce Inter-Symbol Interference (ISI).

using multipath reflections to provide channel delay spread knowledge to change a guard interval for further transmissions in an Orthogonal Frequency Division Multiplexing (OFDM) system and remove Inter-Symbol Interference (ISI), with recurrent channel delay spread knowledge updates to reveal dynamic channel variations.

18. (Currently Amended) The method of claim 17, further including:

transmitting the recurrent channel delay spread knowledge ~~updates~~ to inform other nodes in the system of the guard interval that is to be commonly used.

19. (Cancelled).